

Import DTC Data to REDCap®

Grantees wishing to provide their DTC data by downloading such from their electronic health record (EHR) will need to import that data to REDCap® adhering to the rules outlined in this document.

The DTC REDCap® tool contains two instruments (or forms): Patient and Encounter. Data submitted for import can be provided in either one, or two comma-separated values (csv) files:

- Single file: Similar to the example shown in the “Example Single Data File” figure below, a single file submission will have both patient and encounter records with columns representing all fields (or variables) in both forms.
- Two files: One file will contain only the records and fields for patient records and the other file will contain only the records and fields for encounter records – similar to the examples shown in the “Example Two Data Files” figure below.

Regardless of whether you choose to submit one or two files, they must be built following (exactly) the format of the corresponding template(s). Do not change the column headings (row 1 of the spreadsheet) or an error will occur when you attempt to upload your data... the column headings must match the template and example headings shown herein and are case-sensitive. Note that many of the columns in the template have a limited range of response options (e.g., the Assigned Treatment Group [tx_grp] column will only accept ‘1’ or ‘2’). All multiple-choice fields (i.e., pull-down fields) must have the raw coded value (rather than the choice label) entered in those columns, or else the data cannot be processed. Those valid column responses are outlined in the data dictionary table at the end of this document.

Note that your import files do not necessarily need to contain all of the columns for either the patient or encounter file. You can provide data on “subsets” of columns, but you still must adhere to the column header and response option rules outlined here.

The file(s) that you import must be csv files – that is a text file format that uses commas to separate values. A csv file stores tabular data (numbers and text) in plain text, where each line of the file typically represents one data record. Do not attempt to submit Excel workbooks/worksheets. If you use the two file approach, you will have two distinct files. Although they are referred to as csv files (comma-separated values), you are not required to use commas to delimit fields: you can instead use either semi-colons or tabs... just be sure to select the correct delimiter option when importing your file(s).

The “single data file” csv file does not have a “normalized” database format (see the example below). The single sheet contains both patient records and encounter records and each record has a cell for all possible fields for either patient data or encounter data. This example data file demonstrates a very small number of records (two total patients) and a very limited number of the data columns (all required data columns are documented in the data dictionary table at the end of this document). Additional information on the columns and rows in the file is provided below. For a single data file submission, you must follow the format of the template: HRSA_EBTNP_DTC_Data_One_File_Template.csv.

Data File Record Structure

Example Single Data File*

	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.
1.	record_id	redcap_repeat_instrument	redcap_repeat_instance	pat_name	enroll_date		enc_date	enc_mod	enc_status	
2.	5555-1			Ally Anderson	4/4/2023	<i>more patient variables</i>				
3.	5555-1	encounter	1				4/5/2023	5	1	<i>more encounter variables</i>
4.	5555-2			Cally Carter	2/1/2023	<i>more patient variables</i>				
5.	5555-2	encounter	1				2/7/2023	2	1	<i>more encounter variables</i>
6.	5555-2	encounter	2				2/23/2023	2	1	<i>more encounter variables</i>

* Note: the letters at the top of the columns and numbers to the left of the rows are only used for reference in this document and do not necessarily represent the column letters or row numbers that might be displayed when viewing your data file in (e.g.) Excel.

The “two data files” csv files have a much more intuitive format (see the examples below). One file contains only information from the patient form and the other contains only information from the encounter form. These example data files again represent a very small number of records (two total patients and three encounters) and a very limited number of the data columns (all data columns are documented in the data dictionary table at the end of this document). Additional information on the columns and rows in the files is provided below. For a two data file submission, you must follow the format of the templates: HRSA_EBTNP_DTC_Data_Patient_File_Template.csv and HRSA_EBTNP_DTC_Data_Encounter_File_Template.csv.

Example Two Data Files*

“Patient File”

	a.	b.	c.	d.	e.	f.
1.	record_id	redcap_repeat_instrument	redcap_repeat_instance	pat_name	enroll_date	
2.	5555-1			Ally Anderson	4/4/2023	<i>more patient variables</i>
4.	5555-2			Cally Carter	2/1/2023	<i>more patient variables</i>

“Encounter File”

	a.	b.	c.	g.	h.	i.	j.
1.	record_id	redcap_repeat_instrument	redcap_repeat_instance	enc_date	enc_mod	enc_status	
3.	5555-1	encounter	1	4/5/2023	5	1	<i>more encounter variables</i>
5.	5555-2	encounter	1	2/7/2023	2	1	<i>more encounter variables</i>
6.	5555-2	encounter	2	2/23/2023	2	1	<i>more encounter variables</i>

* Note: the letters at the top of the columns and numbers to the left of the rows are only used for reference in this document and do not necessarily represent the column letters or row numbers that might be displayed when viewing your data files in (e.g.) Excel.

Example File(s) Columns

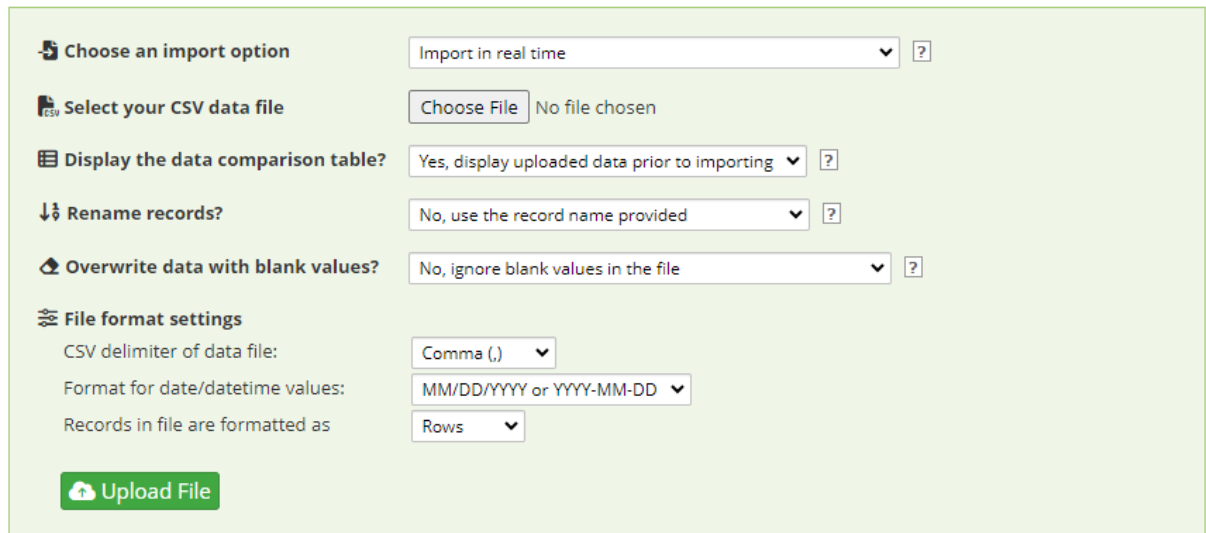
- a) record_id – This is the identifier known by both the grantee and RTRC (i.e., it should not be directly identifiable). Every record must have a record_id. record_id’s must first contain the 4-digit identification number of the grantee (check with Kim Merchant (kimberly-merchant@uiowa.edu) if you do not recall your grantee identification number) followed by a dash (‘-’) and the identification (character or numeric) that you wish to use for the specific patient. For any given patient, the record_id MUST be consistent over the course of the study.
- b) redcap_repeat_instrument – This column identifies which of the two forms is represented in the row. “Patient” records should be blank in this column. “Encounter” records should have the word ‘encounter’ in this column.
- c) redcap_repeat_instance – This column is only populated for encounter records (where there may be more than one occurrence per patient (i.e., if they had more than one encounter).
- d) pat_name – On patient data records: This is the confidential patient identifier (e.g., patient name or medical record number). It is not necessary for you to provide this information in REDCap® but not doing so means that you will be responsible for maintaining your own crosswalk of [record_id] and [pat_name].
- e) enroll_date – On patient data records: The date of patient enrollment (see the “Data Element Dictionary” document).
- f) <blank> – This represents the additional 12 patient data record columns described in the data dictionary table at the end of this document.
- g) enc_date – On encounter data records: The date of this patient encounter (see the “Data Element Dictionary” document).
- h) enc_mod – On encounter data records: The mode of this patient encounter (see the “Data Element Dictionary” document).
- i) enc_status – On encounter data records: The status of this patient encounter (see the “Data Element Dictionary” document).
- j) <blank> this represents the additional 84 encounter data record columns described in the data dictionary table at the end of this document.

Example File(s) Rows

- 1) The column headings (as shown in these examples in record 1) must exactly match those provided in the template document.
- 2) The first data record for patient number 5555-1. This is a record that contains patient-level information, so the [redcap_repeat_instrument] and [redcap_repeat_instance] columns are blank.
- 3) The first (and only) record of encounter-level data for patient number 5555-1. Since this is an encounter record, the word “encounter” is recorded in the [redcap_repeat_instrument] column and an integer is recorded in the [redcap_repeat_instance] column.
- 4) The first data record for patient number 5555-2. This is a record that contains patient-level information, so the [redcap_repeat_instrument] and [redcap_repeat_instance] columns are blank.
- 5&6) Two records of encounter-level data for patient number 5555-2. Since these are encounter records, the word “encounter” is recorded in the [redcap_repeat_instrument] column and an integer is recorded in the [redcap_repeat_instance] column. Note that there are two encounters recorded.

Data Submission (Import) Process

- 1) Add your data to the template(s) and save the file(s) (be sure to save as a csv file... we also suggest saving it with a new, more descriptive name... perhaps including the date of creation).
- 2) Log in to REDCap® and click on “Data Import Tool” in the REDCap® menu on the left side of the screen. Many of the instructions outlined above will also be seen on this page. Focus on the box (sample shown below) at the bottom of the page where you will actually do the data import:



The screenshot displays the REDCap Data Import Tool interface. It features several sections for configuring the import process:

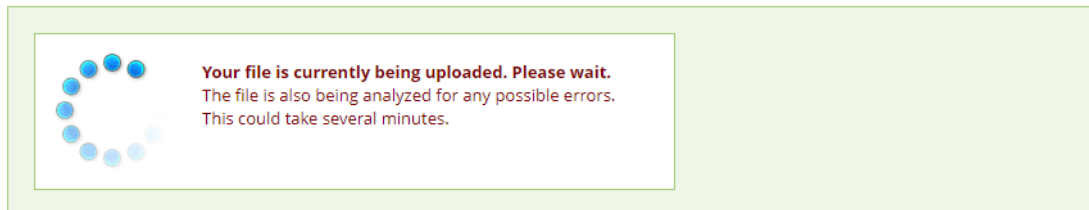
- Choose an import option:** A dropdown menu set to "Import in real time" with a help icon.
- Select your CSV data file:** A "Choose File" button and the text "No file chosen".
- Display the data comparison table?:** A dropdown menu set to "Yes, display uploaded data prior to importing" with a help icon.
- Rename records?:** A dropdown menu set to "No, use the record name provided" with a help icon.
- Overwrite data with blank values?:** A dropdown menu set to "No, ignore blank values in the file" with a help icon.
- File format settings:**
 - CSV delimiter of data file: A dropdown menu set to "Comma (,)" with a help icon.
 - Format for date/datetime values: A dropdown menu set to "MM/DD/YYYY or YYYY-MM-DD" with a help icon.
 - Records in file are formatted as: A dropdown menu set to "Rows" with a help icon.

At the bottom of the form is a green "Upload File" button with a cloud icon.

- 3) Prior to clicking “Upload File” you should double-check the options in the box. The default options (displayed below) should be sufficient, but your circumstances may vary:

a. Choose an import option:	Import in real time
b. Select your CSV data file	Click on the “Choose File” button and navigate to the folder where you have stored the csv file(s) you want to import. Note, you can only import one file at a time.
c. Display the data comparison table?	Yes, display uploaded data prior to importing
d. Rename records?	No, use the record name provided
e. Overwrite data with blank values?	No, ignore blank values in the file
f. File format settings	
CSV delimiter of data file:	Select the delimiter that you have used to construct your data file(s)
Format for date/datetime values:	MM/DD/YYYY or YYYY-MM-DD
Records in file are formatted as	Rows

- 4) When you are sure that all of the selected options are appropriate, click on “Upload File”. REDCap® will read your file, process it, and compare it to the data that you already have in REDCap®:



- a. If REDCap® finds errors in the file, the import process will stop and you will get feedback resembling the following. In this case, one of the imported values (tx_grp) is not an acceptable value for the column. If you have errors in your file, you will need to edit the csv, save it, and go through the import process again.

ⓘ Errors were detected in the import file that prevented it from being loaded.

There is 1 error (shown in red in the error table below) in this dataset. Please correct any errors, save the file, and then select the CSV file above before you click the Upload File button.

ERROR DISPLAY TABLE			
Record	Field Name	Value	Error Message
888	tx_grp	8	The value is not a valid category for tx_grp

- b. If REDCap® finds no errors in the import file, it will provide you with an opportunity to review the status of the data file that you are trying to import. A screen resembling the following will be displayed:

✔ **Your document was uploaded successfully and is ready for review.**
 You are now required to view the Data Display Table below to approve all the data before it is officially imported into the project. Follow the instructions below.

Instructions for Data Review

The data you uploaded from the file is displayed in the Data Display Table below. Please inspect it carefully to ensure that it is all correct. After reviewing it, click the 'Import Data' button at the bottom of this page to import this data into the project.

KEY for Data Display Table below

Black text = New Data
Gray text = Existing data (will not change)
(Red text) = Data that will be overwritten

DATA DISPLAY TABLE										
record_id	redcap_repeat_instrument	redcap_repeat_instance	pat_name	clinic_query	clinic_other	enroll_date	tx_grp	age	sex	ra
4 (existing record)			Daryl Dawkins	South Carolina Clinic		2023-03-08 (2022-12-15)	1		1	1
4 (existing record)	encounter	1								
888 (new record)			John Adams	Downtown Clinic		2023-04-23	1	22	2	3
888 (new record)	encounter	1								

Do you wish to import the new data (displayed above) into the project?
 (Click the button below to import the data.)

[Cancel](#)

- c. The “Data Display Table” reproduces all of the data records that you are attempting to import. The first column displays the record_ID and an indication of whether this is a new record or an existing record that will be overwritten. New records or new fields of data will be displayed in black, fields or records that previously existed will be displayed in grey. In the latter case, fields with changed values (if any) will display the old value in red.

If you are satisfied with the information displayed in the Data Display Table, click on the “Import Data” button at the bottom of the screen. You should receive a message indicating that your import was successful.

At this point, you are free to import another file, engage in other REDCap® activities, or leave REDCap® entirely.

Data Dictionary Table

All Records

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
a	[record_id]	DTC Patient ID	Text, required Must first contain the 4-digit identification number of the grantee (check with Kim Merchant (kimberly-merchant@uiowa.edu) if you do not recall your grantee identification number) followed by a dash ('-') and the identification (character or numeric) that you wish to use for the specific patient. Failure to follow this instruction may result in the loss of data.
b	[redcap_repeat_instrument]	identifies which of the two forms is represented in the row. "Patient" records should be blank in this column.	Text
c	[redcap_repeat_instance]	Only populated for encounter records, indicates the sequential number of the encounter for this patient.	Integer

Patient-Level Data Records

(letters in "Col" represent the column identification assuming all columns are provided)

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
d	[pat_name]	1. Patient Identification	Text, optional
e	[clinic_query]	2. Treatment site ID	Text, optional The treatment site id must be pre-established. if REDCap® does not already "know" the treatment site, your import will be rejected. if you are unsure about REDCap's® knowledge of your treatment site, check with Kim Merchant (kimberly-merchant@uiowa.edu).
f	[clinic_other]	<blank>	<blank>
g	[enroll_date]	3. EB TNP enrollment date	Text (date_mdy), required Min: 2022-01-01, Max: 2030-12-31
h	[tx_grp]	4. Assigned Treatment Group	Integer, required 1 Telehealth treatment group 2 In-person treatment group
i	[age]	5. Age at intake	Integer -1 unknown 1-89 90 90 or more
J	[sex]	6. Sex	Integer 1 Male 2 Female 3 Other 4 Unknown

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
k	[race]	7. Race	Integer 1 White 2 Black or African American 3 Asian 4 Native Hawaiian or other Pacific Islander 5 American Indian or Alaska Native 6 More than one race 7 Unknown
l	[ethnic]	8. Ethnicity	Integer 1 Hispanic ethnicity or Latino/Latina 2 Not Hispanic or Not Latino/Latina 3 Unknown
m	[lang]	9. Language that the patient is best served in	Integer 1 English 2 Not English 3 Unknown
n	[insure]	10. Patient's insurance status	Integer 1 Medicare 2 Medicaid 3 Dually Eligible Medicare/Medicaid 4 Private Insurance 5 Self-pay/uninsured 6 Other, please specify 7 Unknown
o	[insure_oth]	10. specify other:	Text
p	[service]	11. EB TNP primary service provided to patient	Integer 1 Primary care 2 Acute care 3 Behavioral health care 4 Maternal care without remote patient monitoring 5 Maternal care with remote patient monitoring 6 Substance use disorder 7 Chronic care management without remote patient monitoring 8 Chronic care management with remote patient monitoring
q	[zip]	12. Patient residence ZIP code	Text
r	[miles]	13. Patient travel miles to the place of health services	Integer Min: 0 Max: 500
s	[patient_complete]	Form Status	Integer 0 Incomplete 1 Unverified 2 Complete

Encounter-Level Data Records

(letters in “Col” represent the column identification for [single file] / [two file encounter] files, assuming all columns are provided)

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
t / d	[enc_date]	1. Scheduled encounter date	Text (date_mdy), required Min: 2022-01-01, Max: 2034-01-01
u / e	[enc_mod]	2. Encounter modality	Integer 1 Video telehealth service 2 Phone telehealth service 3 Remote patient monitoring service 4 Non-telehealth (in-person) service 5 Other, please specify
v / f	[mod_oth]	2. Specify other encounter modality	Text - if [enc_mod]=5
w / g	[enc_status]	3. Encounter Status	Integer 1 Completed 2 Technology failed 3 Patient did not appear 4 Patient cancelled and/or rescheduled 5 Clinician did not appear 6 Clinician cancelled and/or rescheduled 7 Unknown 8 Other, please specify
x / h	[status_oth]	3. Specify other encounter status	Text - if [enc_status]=8
y / i	[hcpcs1]	4. Treatment service type – HCPCS 1	Text (valid HCPCS)
z / j	[hcpcs2]	4. Treatment service type – HCPCS 2	Text (valid HCPCS)
aa / k	[hcpcs3]	4. Treatment service type – HCPCS 3	Text (valid HCPCS)
ab / l	[hcpcs4]	4. Treatment service type – HCPCS 4	Text (valid HCPCS)
ac / m	[hcpcs5]	4. Treatment service type – HCPCS 5	Text (valid HCPCS)
ad / n	[cpt1]	4. Treatment service type – CPT 1	Text (valid CPT)
ae / o	[cpt2]	4. Treatment service type – CPT 2	Text (valid CPT)
af / p	[cpt3]	4. Treatment service type – CPT 3	Text (valid CPT)
ag / q	[cpt4]	4. Treatment service type – CPT 4	Text (valid CPT)
ah / r	[cpt5]	4. Treatment service type – CPT 5	Text (valid CPT)
ai / s	[clin_type]	5. Clinician type	Integer 1 Advanced Practice RN or Nurse Practitioner (APRN or NP) 2 Clinical Psychologist (PhD or PsyD) 3 Clinical Social Worker (MSW or LCSW) 4 LPCA/LPCC 5 Nurse or Nurse Educator or Nurse Therapist (RN or BSN or DPN) 6 Pharmacist (PharmD) 7 Physician Assistant (PA) 8 Primary Care Physician, Family Practice Physician,

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
			Internal Medicine (MD or DO) 9 Psychiatrist 10 Registered Dietitian (RD) 11 Specialist Physician (e.g., cardiologist, pulmonologist, OB/GYN) 12 Other, please specify 13 Unknown: Unable to determine from EMR, log, or patient visit record
aj / t	[clin_type_oth]	2. Specify other clinician type	Text - if [clin_type_mod]=12
ak / u	[icd1]	6. Patient diagnoses (1)	Text (valid ICD-10)
al / v	[icd2]	6. Patient diagnoses (2)	Text (valid ICD-10)
am / w	[icd3]	6. Patient diagnoses (3)	Text (valid ICD-10)
an / x	[icd2_av__1]	6. Patient diagnoses (2) not available	Integer 1 [icd2] not available
ao / y	[icd3_av__1]	6. Patient diagnoses (3) not available	Integer 1 [icd3] not available
ap / z	[ndc1]	7. Prescribed medications (NDC) 1	Text (valid NDC)
aq / aa	[ndc2]	7. Prescribed medications (NDC) 2	Text (valid NDC)
ar / ab	[ndc3]	7. Prescribed medications (NDC) 3	Text (valid NDC)
as / ac	[ndc4]	7. Prescribed medications (NDC) 4	Text (valid NDC)
at / ad	[ndc5]	7. Prescribed medications (NDC) 5	Text (valid NDC)
au / ae	[ndc6]	7. Prescribed medications (NDC) 6	Text (valid NDC)
av / af	[ndc7]	7. Prescribed medications (NDC) 7	Text (valid NDC)
aw / ag	[ndc8]	7. Prescribed medications (NDC) 8	Text (valid NDC)
ax / ah	[nddf1]	7. Prescribed medications (NDDF) 1	Text (valid NDDF)
ay / ai	[nddf2]	7. Prescribed medications (NDDF) 2	Text (valid NDDF)
az / aj	[nddf3]	7. Prescribed medications (NDDF) 3	Text (valid NDDF)
ba / ak	[nddf4]	7. Prescribed medications (NDDF) 4	Text (valid NDDF)
bb / al	[nddf5]	7. Prescribed medications (NDDF) 5	Text (valid NDDF)
bc / am	[nddf6]	7. Prescribed medications (NDDF) 6	Text (valid NDDF)
bd / an	[nddf7]	7. Prescribed medications (NDDF) 7	Text (valid NDDF)
be / ao	[nddf8]	7. Prescribed medications (NDDF) 8	Text (valid NDDF)
bf / ap	[rxn1]	7. Prescribed medications (RxNorm) 1	Text (valid RxNorm)
bg / aq	[rxn2]	7. Prescribed medications (RxNorm) 2	Text (valid RxNorm)
bh / ar	[rxn3]	7. Prescribed medications (RxNorm) 3	Text (valid RxNorm)
bi / as	[rxn4]	7. Prescribed medications (RxNorm) 4	Text (valid RxNorm)
bj / at	[rxn5]	7. Prescribed medications (RxNorm) 5	Text (valid RxNorm)

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
bk / au	[rxn6]	7. Prescribed medications (RxNorm) 6	Text (valid RxNorm)
bl / av	[rxn7]	7. Prescribed medications (RxNorm) 7	Text (valid RxNorm)
bm / aw	[rxn8]	7. Prescribed medications (RxNorm) 8	Text (valid RxNorm)
bn / ax	[oth1]	7. Specify other medication change 1	Text - if [chg1]=6
bo / ay	[oth2]	7. Specify other medication change 2	Text - if [chg2]=6
bp / az	[oth3]	7. Specify other medication change 3	Text - if [chg3]=6
bq / ba	[oth4]	7. Specify other medication change 4	Text - if [chg4]=6
br / bb	[oth5]	7. Specify other medication change 5	Text - if [chg5]=6
bs / bc	[oth6]	7. Specify other medication change 6	Text - if [chg6]=6
bt / bd	[oth7]	7. Specify other medication change 7	Text - if [chg7]=6
bu / be	[oth8]	7. Specify other medication change 8	Text - if [chg8]=6
bv / bf	[chg1]	7. Prescribed medications (Change) 1	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
bw / bg	[chg2]	7. Prescribed medications (Change) 2	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
bx / bh	[chg3]	7. Prescribed medications (Change) 3	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
by / bi	[chg4]	7. Prescribed medications (Change) 4	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
bz / bj	[chg5]	7. Prescribed medications (Change) 5	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
ca / bk	[chg6]	7. Prescribed medications (Change) 6	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
cb / bl	[chg7]	7. Prescribed medications (Change) 7	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
cc / bm	[chg8]	7. Prescribed medications (Change) 8	Integer 1 renewed 2 newly prescribed 3 increased admin. frequency or dose 4 decreased admin. frequency or dose 5 discontinued 6 other (specify)
cd / bn	[med_av___1]	7. Medication change data not available	Integer 1 medication changes not available
ce / bo	[phq9]	8. PHQ-9 depression symptoms score	Integer Min: 0 Max: 27 - if [service]=3
cf / bp	[phq9_av___1]	8. PHQ-9 depression symptoms score not available	Integer 1 [phq9] not available
cg / bq	[gad7]	9. GAD-7 generalized anxiety symptoms score	Integer Min: 0 Max: 21 - if [service]=3
ch / br	[gad7_av___1]	9. GAD-7 generalized anxiety symptoms score not available	Integer 1 [gad7] not available
ci / bs	[smoke]	10. Smoking status	Integer 1 current every day smoker 2 current some day smoker 3 smoker, current status unknown 4 former smoker 5 never smoker 6 N/A - not applicable for this patient 7 unknown if ever smoked

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
			- if [service] in (1 , 2 , 3 , 6 , 7 , 8)
cj / bt	[vape]	11. Vaping status	Integer 1 current every day vaper 2 current some day vaper 3 vaper, current status unknown 4 former vaper 5 never vaper 6 N/A - not applicable for this patient 7 unknown if ever vaped - if [service] in (1 , 2 , 3 , 6 , 7 , 8)
ck / bu	[bp1]	12. Blood Pressure (systolic)	Integer Min: 20 Max: 250 - if [service] in (1 , 2 , 4 , 5 , 7 , 8)
cl / bv	[bp2]	12. Blood Pressure (diastolic)	Integer Min: 20 Max: 250 - if [service] in (1 , 2 , 4 , 5 , 7 , 8)
cm / bw	[bp_av___1]	12. Blood pressure measurement not available	Integer 1 [bp1] [bp2] not available
cn / bx	[hba1c]	13. HbA1c	Number Min: 2 Max: 10 - if [service] in (1 , 2 , 4 , 5 , 7 , 8)
co / by	[hba1c_av___1]	13. HbA1c not available	Integer 1 [hba1c] not available
cp / bz	[ht_ft]	14. Ht (feet)	Integer Min: 3 Max: 7
cq / ca	[ht_in]	14. Ht (inches)	Integer Min: 0 Max: 11
cr / cb	[ht_cm]	14. Ht (cm)	Integer Min: 90 Max: 225
cs / cc	[wt_lb]	14. Wt (lbs)	Integer Min: 50 Max: 400
ct / cd	[wt_kg]	14. Wt (kg)	Integer Min: 22 Max: 180
cu / ce	[bmi]	14. BMI	Integer Min: 10 Max: 45
cv / cf	[bmi_pct]	14. BMI percentile	Integer Min: 1 Max: 101

Col	Variable / Field Name	Field Label	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
cw / cg	[hw_bmi_av___1]	14. Height/Weight information not available	Integer 1 <height><weight> not available
cx / ch	[encounter_complete]	Form Status	Integer 0 Incomplete 1 Unverified 2 Complete